

REMARKS

Claims 7-19 are currently pending. Support for the amendments to claims 7 and 8 may be found in the specification as originally filed, for example, in original claims 1 and 2 and at page 9, lines 13-16.

Support for new claims 17-19 may be found in the specification as originally filed, for example in claims 3, 5 and 6.

I. The Objections to the Claims

Claims 9-12 and 15-16 are objected as allegedly containing “informalities.”

The Examiner states that claim 9 contains the verb "laminating" which should be "laminated" in the past tense to correctly represent a product.

The Examiner requests that the verb "adhering" be changed to "adhered" in claim 11.

The Examiner states that claim 10 be amended for clarity to recite "The linear polarizer according to claim 9, wherein the circularly polarizing plate, which is the broad band cholesteric liquid crystal film, is laminated ...".

The Examiner suggests that Claims 9-12 and 15 be amended to change "linearly polarizer" to "linear polarizer".

Applicants have amended claims 9-12 and 15 as suggested by the Examiner, with the addition of the term “wherein” to claim 10. Applicants respectfully submit that the present claims are clear and definite and it is requested that the objection to the claims be reconsidered and withdrawn.

II. The Rejections under 35 U.S.C. §102

Claims 1-3, 5, 7-9, 13-16 are rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Verrall (US 6,099,758) as evidenced by Ouderkirk (US 6,573,963).

Claim 6 is rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Verrall as evidenced by Ouderkirk and further in view of Nakano (Abstract, formulae, JP2002308832).¹

Claim 10 is rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over Verrall as evidenced by Ouderkirk.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Verrall as evidenced by Ouderkirk and further in view of Cobb (US 6,515,785).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Verrall as evidenced by Ouderkirk and further in view of Kameyama (US 6,088,079).

Applicants respectfully submit that the present invention is not anticipated by or obvious over the disclosures of Verrall as evidenced by Ouderkirk, alone or in view of Nakano, Cobb, or Kameyama and request that the Examiner reconsider and withdraw this rejection in view of the following remarks.

Verrall does not teach or disclose variation in the pitch length between the side of ultraviolet light irradiation and the opposite side by no less than 100 nm as presently claimed in amended claim 7. According to the manufacturing method of the present invention a cholesteric liquid crystal film having a large variation in the pitch length is obtained by using the claimed method.

Although the Examiner alleges that the manufacturing method according to Claim 7 is described in Verrall, Verrall does not positively describe that no ultraviolet absorbent is to be used. Again, due to the manufacturing method of the present invention a cholesteric liquid crystal film having a large variation in the pitch length is obtained by using the claimed method. As described in Applicants' specification, page 9, lines 6-13

In the present invention, on the other hand, a broad band cholesteric liquid crystal changing the pitch continuously is obtained by diffusing a mesogen compound having one polymerizable functional group, and thus the order of change of the chiral pitch is reversed. That is, a broad band cholesteric liquid crystal film having such pitch change as to narrow the pitch length continuously from the side of ultraviolet light irradiation can be obtained in the present invention.

In this manner, according to the manufacturing method of the present invention, the pitch length of a cholesteric liquid crystal film becomes sequentially smaller starting from the side irradiated with ultraviolet light as a result of diffusion of a mesogen compound, and thereby, the band is broadened. This result is not disclosed or suggested in Verrall.

The secondary references, Nakano, Cobb, and Kameyama, do not overcome the deficiencies discussed above in the primary reference Verrall.

For the above reasons, it is respectfully submitted that the subject matter of the instant claims is neither taught by nor made obvious from the disclosures of Verrall as evidenced by

¹ U.S. Patent Publication 2003/0072893 A1 is equivalent to Nakano, JP2002-308832.

Ouderkirk, alone or in view of Nakano, Cobb, or Kameyama, and it is requested that the rejections under 35 U.S.C. §§102 and 103 be reconsidered and withdrawn.

III. The Double Patenting Rejection

Claims 1, 3, 7-11, 13-14 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as allegedly being unpatentable over claims 1, 4, 6-12 of copending Application No. 10/542,017 in view of US 6,099,758.

According to the manufacturing method of the present invention, the pitch length of a cholesteric liquid crystal film becomes sequentially smaller starting from the side irradiated with ultraviolet light as a result of diffusion of a mesogen compound, and thereby, the band is broadened.

However, the mechanism for broadening the band differs between the present application and in copending Application No. 10/542,017. See the description of copending Application No.10/542,017, page 15 lines 5 to 16:

If such a photoisomerizable material (c) is added to a liquid crystal mixture and the mixture is illuminated with ultraviolet so that an ultraviolet illumination dosage is distributed in the thickness direction, isomerization from a trans-isomer to a cis-isomer advances in the ultraviolet illumination side. On the other hand, in the opposite side from the ultraviolet illumination side, isomerization from a trans-isomer to a cis-isomer is harder to advance. Therefore, revealed is a positional distribution of a change in ratio of trans-isomer and cis-isomer in the

thickness direction, which enables manufacture of a broad band cholesteric liquid crystal film having a selective reflection wavelength bandwidth covering all the region of visible light."

In this manner, the mechanism for broadening the band differs between the present application and copending Application No. 10/542,017 in view of US 6,099,758 and it is respectfully requested that the obviousness-type double patenting rejection be reconsidered and with drawn.

For the above reasons, it is respectfully submitted that the subject matter of the claims of the present application not claimed or obvious from the claims copending Application No. 10/542,017 in view of US 6,099,758 and it is requested that the obviousness-type double patenting rejection be reconsidered and with drawn.

IV. Conclusion


In view of the above, Applicants respectfully submit that their claimed invention is allowable and ask that the objections to the claims and the rejections under 35 U.S.C. §§102 and 103 be reconsidered and withdrawn. Applicants respectfully submit that this case is in condition for allowance and allowance is respectfully solicited.

If any points remain at issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the local exchange number listed below.

Amendment Under 37 C.F.R. §1.111
Application No. 10/542,065
Attorney Docket No. 052780

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
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